

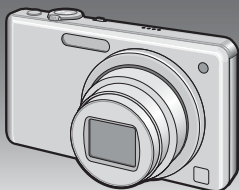
Panasonic®

Basic Operating Instructions

Digital Camera

Model No. **DMC-FH22**

LUMIX



Before use, please read the instructions completely.



Please also refer to Operating Instructions (PDF format) recorded on the CD-ROM containing the Operating Instructions (supplied).



You can learn about advanced operation methods and check the Troubleshooting.

Dear Customer,

We would like to take this opportunity to thank you for purchasing this Panasonic Digital Camera. Please read these Operating Instructions carefully and keep them handy for future reference.

Please note that the actual controls and components, menu items, etc. of your Digital Camera may look somewhat different from those shown in the illustrations in these Operating Instructions.

Carefully observe copyright laws.

- Recording of pre-recorded tapes or discs or other published or broadcast material for purposes other than your own private use may infringe copyright laws. Even for the purpose of private use, recording of certain material may be restricted.

Information for Your Safety

WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE,

- **DO NOT EXPOSE THIS APPARATUS TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.**
- **USE ONLY THE RECOMMENDED ACCESSORIES.**
- **DO NOT REMOVE THE COVER (OR BACK); THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

THE SOCKET OUTLET SHALL BE INSTALLED NEAR THE EQUIPMENT AND SHALL BE EASILY ACCESSIBLE.

Product Identification Marking is located on the bottom of units.

■ How to replace the fuse

The location of the fuse differ according to the type of AC cable (figures A and B). Confirm the AC cable fitted and follow the instructions below. Illustrations may differ from actual AC cable.

1. Open the fuse cover with a screwdriver.

Figure A

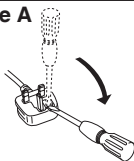
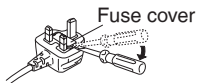


Figure B



2. Replace the fuse and close or attach the fuse cover.

Figure A



Figure B



■ About the battery pack

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

- Do not heat or expose to flame.
- Do not leave the battery(ies) in an automobile exposed to direct sunlight for a long period of time with doors and windows closed.

Warning

Risk of fire, explosion and burns. Do not disassemble, heat above 60°C or incinerate.

■ About the battery charger

CAUTION!

- DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.
- DO NOT OBSTRUCT THE UNIT'S VENTILATION OPENINGS WITH NEWSPAPERS, TABLECLOTHS, CURTAINS, AND SIMILAR ITEMS.
- DO NOT PLACE SOURCES OF NAKED FLAMES, SUCH AS LIGHTED CANDLES, ON THE UNIT.
- DISPOSE OF BATTERIES IN AN ENVIRONMENTALLY FRIENDLY MANNER.

- The battery charger is in the standby condition when the AC power supply cord is connected.

The primary circuit is always “live” as long as the power cord is connected to an electrical outlet.

– If you see this symbol –

Information on Disposal in other Countries outside the European Union



This symbol is only valid in the European Union. If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.



■ Cautions for Use

- Always use a genuine Panasonic AC adaptor (DMW-AC5G: optional).
- When using an AC adaptor, use the AC cable supplied with the AC adaptor.
- Do not use any other AV cables except the supplied one.
- Do not use any other USB connection cables except the supplied one.

Keep the camera as far away as possible from electromagnetic equipment (such as microwave ovens, TVs, video games etc.).

- If you use the camera on top of or near a TV, the pictures and sound on the camera may be disrupted by electromagnetic wave radiation.
- Do not use the camera near cell phones because doing so may result in noise adversely affecting the pictures and sound.
- Recorded data may be damaged, or pictures may be distorted, by strong magnetic fields created by speakers or large motors.
- Electromagnetic wave radiation generated by microprocessors may adversely affect the camera, disturbing the pictures and sound.
- If the camera is adversely affected by electromagnetic equipment and stops functioning properly, turn the camera off and remove the battery or disconnect AC adaptor (DMW-AC5G: optional). Then reinsert the battery or reconnect AC adaptor and turn the camera on.

Do not use the camera near radio transmitters or high-voltage lines.

- If you record near radio transmitters or high-voltage lines, the recorded pictures and sound may be adversely affected.

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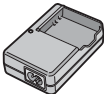
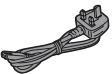





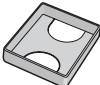
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Standard Accessories

Check that all the accessories are included before using the camera. Product numbers are correct as of January 2010. These may be subject to change.

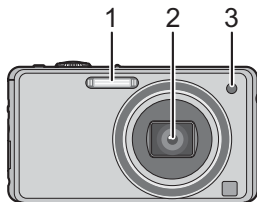
- 1 Battery Pack
(Battery Pack is indicated as **battery pack** or **battery** in the text.)
Charge the battery before use.
- 2 Battery Charger
(Battery Charger is indicated as **battery charger** or **charger** in the text.)
- 3 AC Cable
 - Ⓐ: Hong Kong Special Administrative Region of China and Saudi Arabia
 - Ⓑ: Areas Other than Hong Kong Special Administrative Region of China and Saudi Arabia
- 4 USB Connection Cable
- 5 AV Cable
- 6 CD-ROM
 - Software:
Use it to install the software to your PC.
 - Operating Instructions
- 7 Hand Strap
- 8 Battery Case

 1 CGA-S/106C	 2 DE-A60B
 3 Ⓐ K2CT39A00002 (DMC-FH22GC)	 Ⓑ K2CQ29A00002 (DMC-FH22GF)
 4 K1HA08AD0001	 5 K1HA08CD0027
 6 VFF0566	 7 VFC4297
 8 VGQ0D56	

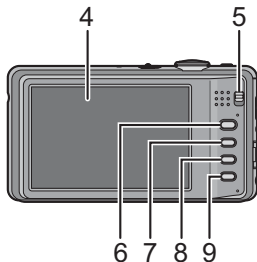
- SD Memory Card, SDHC Memory Card and SDXC Memory Card are indicated as **card** in the text.
- **Card is optional.**
You can record or play back pictures on the built-in memory when you are not using a card.
- Consult the dealer or your nearest Service Centre if you lose the supplied accessories. (You can purchase the accessories separately.)

Names of the Components

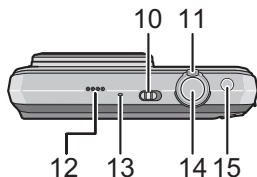
- 1 Flash
- 2 Lens
- 3 Self-timer Indicator
AF Assist Lamp



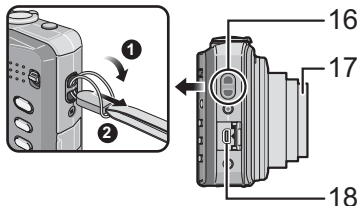
- 4 Touch Panel/LCD Monitor
- 5 [REC]/[PLAYBACK] selector switch
- 6 [MODE] button
- 7 [DISPLAY] button
- 8 [MENU] button
- 9 [Q.MENU]/Delete button



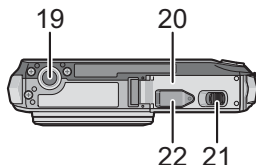
- 10 Camera ON/OFF switch
- 11 Zoom lever
- 12 Speaker
- 13 Microphone
- 14 Shutter button
- 15 Intelligent auto button



- 16 Hand strap eyelet
- Be sure to attach the hand strap when using the camera to ensure that you will not drop it.
- 17 Lens barrel
- 18 [AV OUT/DIGITAL] socket



- 19 Tripod receptacle
- When you use a tripod, make sure the tripod is stable when the camera is attached to it.
- 20 Card/Battery door
- 21 Release lever
- 22 DC coupler cover



- When using an AC adaptor, ensure that the Panasonic DC coupler (DMW-DCC4; optional) and AC adaptor (DMW-AC5G; optional) are used.

How to Use the Touch Panel

You can operate by directly touching the LCD Monitor (Touch Panel) with your finger.

■ Touch

To touch and release the Touch Panel. It is used to select icon or picture.

■ Drag

A movement performed without releasing the Touch Panel. It is used to forward or rewind the image during playback.

Charging the Battery

■ **About batteries that you can use with this unit**
Supplied battery or dedicated optional batteries (DMW-BCF10E) can be used with this camera.

It has been found that counterfeit battery packs which look very similar to the genuine product are made available to purchase in some markets. Some of these battery packs are not adequately protected with internal protection to meet the requirements of appropriate safety standards. There is a possibility that these battery packs may lead to fire or explosion. Please be advised that we are not liable for any accident or failure occurring as a result of use of a counterfeit battery pack. To ensure that safe products are used we would recommend that a genuine Panasonic battery pack is used.

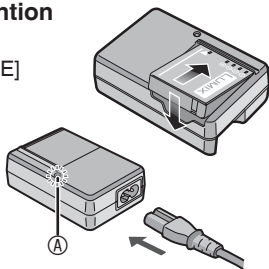
- **Use the dedicated charger and battery.**
- **The camera has a function for distinguishing batteries which can be used safely. The dedicated battery supports this function. The only batteries suitable for use with this unit are genuine Panasonic products and batteries manufactured by other companies and certified by Panasonic. (Batteries which do not support this function cannot be used.) Panasonic cannot in any way guarantee the quality, performance or safety of batteries which have been manufactured by other companies and are not genuine Panasonic products.**
- **The battery is not charged when the camera is shipped. Charge the battery before use.**
- **Charge the battery with the charger indoors.**
- **Charge the battery in a temperature between 10 °C to 35 °C. (The battery temperature should also be the same.)**

1 Attach the battery paying attention to the direction of the battery.

- Charging starts when the [CHARGE] indicator **A** lights green.

2 Detach the battery after charging is completed.

- Charging is complete when the [CHARGE] indicator **A** turns off.



■ Charging

	Supplied battery	Optional battery
Charging time*	Approx. 100 min	Approx. 130 min

* with the supplied charger

■ The battery life (By CIPA standard in Normal Picture Mode)

	Supplied battery	Optional battery
Capacity	740 mAh	940 mAh
Number of recordable pictures	Approx. 300 pictures	Approx. 380 pictures
Recording time	Approx. 150 min	Approx. 190 min

Recording conditions by CIPA standard

- CIPA is an abbreviation of [Camera & Imaging Products Association].
- Temperature: 23 °C/Humidity: 50% when LCD monitor is on.
- Using a Panasonic SD Memory Card (32 MB).
- Starting recording 30 seconds after the camera is turned on. (When the Optical Image Stabilizer function is set to [AUTO].)
- **Recording once every 30 seconds** with full flash every second recording.
- Rotating the zoom lever from Tele to Wide or vice versa in every recording.
- Turning the camera off every 10 recordings and leaving it until the temperature of the battery decreases.

About the Built-in Memory/the Card

Built-in Memory

- **Memory size: Approx. 40 MB**
- The built-in memory can be used as a temporary storage device when the card being used becomes full.
- The access time for the built-in memory may be longer than the access time for a card.

Card

The following types of cards can be used with this unit.
(These cards are indicated as **card** in the text.)

Type of card	Remarks
SD Memory Card (8 MB to 2 GB)	You can use an SDHC Memory Card or an SDXC Memory Card in equipment that is compatible with those cards. <ul style="list-style-type: none"> • Before using SDXC Memory Cards, check your computer and other devices support this type of card. http://panasonic.net/avc/sdcard/information/SDXC.html
SDHC Memory Card (4 GB to 32 GB)	
SDXC Memory Card (48 GB to 64 GB)	

- If you use cards between 4 GB and 32 GB capacity, confirm SDHC logo on the card (indicating compliance with the SD standard).
- If you use cards between 48 GB and 64 GB capacity, confirm SDXC logo on the card (indicating compliance with the SD standard).
- Please confirm the latest information on the following website.
<http://panasonic.jp/support/global/cs/dsc/>
(This Site is English only.)



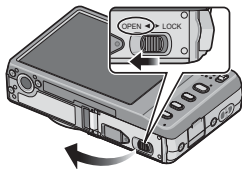
Note

- Keep the Memory Card out of reach of children to prevent swallowing.

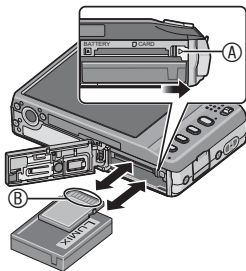
Inserting and Removing the Card (optional)/the Battery

- Check that this unit is turned off.
- We recommend using a Panasonic card.

- 1** Slide the release lever in the direction of the arrow and open the card/battery door.
- Always use genuine Panasonic batteries (CGA-S/106C: supplied or DMW-BCF10E: optional).
 - If you use other batteries, we cannot guarantee the quality of this product.



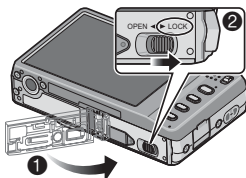
- 2** Battery: Insert until it is locked by the lever **A** being careful about the direction you insert it. Pull the lever **A** in the direction of the arrow to remove the battery.



Card: Push it fully until it clicks being careful about the direction you insert it. To remove the card, push the card until it clicks, then pull the card out upright.

- ⓑ: Do not touch the connection terminals of the card.
- The card may be damaged if it is not fully inserted.

- 3**
- 1:** Close the card/battery door.
 - 2:** Slide the release lever in the direction of the arrow.



Setting Date/Time (Clock Set)

- The clock is not set when the camera is shipped.

1 Turn the camera on.

2 Touch the language select icon on the screen.

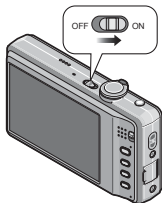
3 Select the language.

- The [PLEASE SET THE CLOCK] message appears. (This message does not appear in [PLAYBACK Mode].)
Touch [CLOCK SET].

4 Touch [▲]/[▼]/[◀]/[▶] for each item to set year, month, day, hour, minute, display sequence or time display format, and touch [SET].

🗑️ : Cancel without setting the clock.

5 Touch [SET] to set.



Changing the clock setting

Select [CLOCK SET] in the [REC] or [SETUP] menu.

- It can be changed in step 4 to set the clock.

Setting the Menu

This section describes how to select the Normal Picture Mode settings, and the same setting can be used for the [PLAYBACK] menu and [SETUP] menu as well.

Example: Setting [AF MODE] from [] to [] in the Normal Picture Mode

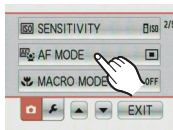
1 Press [MENU] to display the menu.

MENU



2 Touch [AF MODE].

- Touch [▼] to move to the second screen.



3 Touch [].

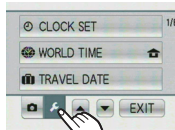
- Depending on the item, its setting may not appear or it may be displayed in a different way.



4 Touch [EXIT] to close the menu.

Switching to the [SETUP] menu

Touch the [SETUP] menu icon .



Selecting the [REC] Mode

Intelligent Auto Mode (P17)

The subjects are recorded using settings automatically selected by the camera.

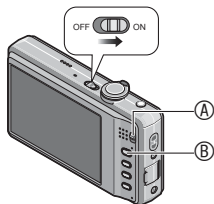
■ To select a [REC] Mode from the [REC] Modes list

- 1 Turn the camera on.**
 (A) [REC]/[PLAYBACK] selector switch
 (B) [MODE] button

- 2 Slide the [REC]/[PLAYBACK] selector switch to [].**

- 3 Press [MODE].**

- 4 Touch the Mode.**



■ List of [REC] Modes

Normal Picture Mode

The subjects are recorded using your own settings.

MS My Scene Mode

Pictures are taken using previously registered recording scenes.

SCN Scene Mode

This allows you to take pictures that match the scene being recorded.

Motion Picture Mode

This mode allows you to record motion pictures with audio.

[REC] Mode: 

Taking Pictures Using the Automatic Function

( : Intelligent Auto Mode)

The camera will set the most appropriate settings to match the subject and the recording conditions so we recommend this mode for beginners or those who want to leave the settings to the camera and take pictures easily.

Ⓐ [] button

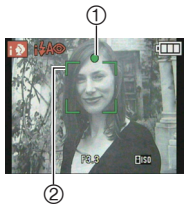
1 Slide the [REC]/[PLAYBACK] selector switch to [].

2 Press [].

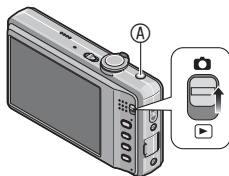
3 Hold the camera gently with both hands, keep your arms still at your side and stand with your feet slightly apart.

4 Press the shutter button halfway to focus.

- The focus indication ① (green) lights when the subject is focused.
- The AF area ② is displayed around the subject's face by the face detection function. In other cases, it is displayed at the point on the subject which is in focus.
- The focus range is 5 cm (Wide)/1.0 m (Tele) to ∞.













5 Press the shutter button fully (push it in further), and take the picture.



Scene Detection


When the camera identifies the optimum scene, the icon of the scene concerned is displayed in blue for 2 seconds, after which its colour changes to the usual red.

 →	 [i-PORTRAIT]	 [i-NIGHT PORTRAIT] • Only when [iA] is selected
	 [i-SCENERY]	 [i-NIGHT SCENERY]
	 [i-MACRO]	 [i-SUNSET]

- [] is set if none of the scenes are applicable, and the standard settings are set.
- When [] or [] is selected, the camera automatically detects a person's face, and it will adjust the focus and exposure (Face Detection).

[REC] Mode: 

Motion Picture Mode

1 Slide the [REC]/[PLAYBACK] selector switch to [], and then press [MODE].

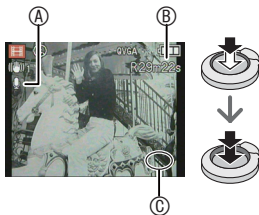
2 Touch [MOTION PICTURE].

3 Press the shutter button halfway to focus and then press it fully to start recording.

Ⓐ Audio recording

• The available recording time Ⓑ is displayed on the top right and the elapsed recording time Ⓒ is displayed on the bottom right of the screen.

- After pressing the shutter button fully, release it straight away.
- When the subject is focused, the focus indication lights.
- The focus and zoom are fixed to the setting when recording starts (the first frame).
- The audio is also recorded simultaneously from the built-in microphone on this unit. (Motion pictures cannot be recorded without audio.)



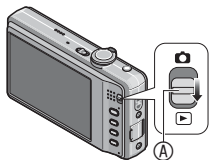
4 Press the shutter button fully to stop recording.

- If the built-in memory or the card becomes full in the middle of recording, the camera stops recording automatically.

[PLAYBACK] Mode: 

Playing Back Pictures ([NORMAL PLAY])

1 Slide the [REC]/[PLAYBACK] selector switch  to .



2 Forward or rewind the image by dragging the screen horizontally.

Forward: drag from left to right

Rewind: drag from right to left

- To play back motion pictures , touch .

[PLAYBACK] Mode: 

Deleting Pictures

Once deleted, pictures cannot be recovered.

- Pictures on the built-in memory or the card, which are being played back will be deleted.

1 Select the picture to be deleted, and then press .

  button



2 Touch [DELETE SINGLE].

3 Touch [YES].



Reading the Operating Instructions (PDF format)

- You have practised the basic operations introduced in these operating instructions and want to progress to advanced operations.
- You want to check the Troubleshooting.

In these kinds of situations refer to Operating Instructions (PDF format) recorded on the CD-ROM containing the Operating Instructions (supplied).

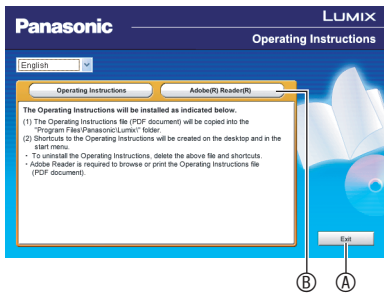
[Windows]

1 Turn the PC on and insert the CD-ROM containing the Operating Instructions (supplied).

2 Click the [Operating Instructions].

3 Select the desired language and then click [Operating Instructions] to install.

- Ⓐ To return to the install menu.



4 Double click the “Operating Instructions” shortcut icon on the desktop.

■ **When the Operating Instructions (PDF format) will not open**

You will need Adobe Acrobat Reader 5.0 or later or Adobe Reader 7.0 or later to browse or print the Operating Instructions (PDF format).

Insert the CD-ROM containing the Operating Instructions (supplied), click [Ⓜ] and then follow the messages on the screen to install.

(Compatible OS: Windows 2000 SP4/Windows XP SP2 or SP3/Windows VISTA SP1 or SP2/Windows 7)

- You can download and install a version of Adobe Reader that you can use with your OS from the following Web Site.

<http://get.adobe.com/reader/otherversions>

■ **To uninstall the Operating Instructions (PDF format)**

Delete the PDF file from the “Program Files\Panasonic\Lumix\” folder.

- When the contents in the Program Files folder cannot be displayed, click the [Show the contents of this folder] to display them.

[Macintosh]

1

Turn the PC on and insert the CD-ROM containing the Operating Instructions (supplied).

2

Open the “Manual” folder in the CD-ROM and then copy the PDF file with the desired language inside the folder.

3

Double click the PDF file to open it.

Specifications

Digital Camera:	Information for your safety
Power Source:	DC 5.1 V
Power Consumption:	1.1 W (When recording) 0.6 W (When playing back)
Camera Effective pixels:	14,100,000 pixels
Image sensor:	1/2.33" CCD
Total pixels:	14,500,000 pixels Primary colour filter
Lens:	Optical 8 × zoom, f=5 to 40 mm [35 mm film camera equivalent: 28 to 224 mm] / F3.3 to F5.9
Digital zoom:	Max. 4 ×
Extra optical zoom:	Max. 16.9 ×
Focus:	Normal / AF macro / Macro zoom / Touch AF area selection Face detection / 9-area-focusing / 1-area-focusing / Touched area (during Touch AF area selection)
Focus range:	Normal : 50 cm (Wide) / 2 m (Tele) to ∞ Macro / Intelligent auto: 5 cm (Wide) / 1 m (Tele) to ∞ Scene mode: settings may be different to those shown above
Shutter system:	Electronic shutter+Mechanical shutter
Burst recording	
Burst speed:	Approx. 1.5 pictures/second
Number of recordable pictures:	Depends on the remaining capacity of the built-in memory or the card.

Hi-speed burst**Burst speed:**

Approx. 4.6 pictures/second

Picture size:

3M (4:3), 2.5M (3:2) or 2M (16:9) is selected as the picture size.

Number of recordable pictures:

Approx. 15 to 100

Shutter speed:8 seconds to 1/1,600th of a second
[STARRY SKY] mode: 15 seconds, 30 seconds, 60 seconds**Exposure (AE):**Auto (Program AE)
Exposure compensation (1/3 EV Step, -2 EV to +2 EV)**Metering mode:**

Multiple

LCD monitor:

TFT LCD 3.0" (Approx. 230,400 dots) (field of view ratio about 100%)

Flash:

Flash range:

Approx. 0.6 m to 5.8 m (Wide [ISO])
AUTO, AUTO / Red-eye reduction, Forced ON (Forced ON / Red-eye reduction), Slow sync. / Red-eye reduction, Forced OFF**Microphone:**

Monaural

Speaker:

Monaural

Recording media:

Built-in Memory (Approx. 40 MB) / SD Memory Card / SDHC Memory Card / SDXC Memory Card

Recording file format**Still Picture:**

JPEG (based on "Design rule for Camera File system", based on "Exif 2.21" standard)/DPOF corresponding

Motion pictures:

"QuickTime Motion JPEG" (motion pictures with audio)

Interface**Digital:**

USB 2.0 (Full Speed)

Analogue video / audio:

PAL / NTSC Composite (Switched by menu), Audio line output (monaural)

Terminal

AV OUT/DIGITAL:	Dedicated jack (8 pin)
Dimensions:	Approx. 100.0 mm (W) × 56.5 mm (H) × 27.2 mm (D) (excluding the projection part)
Mass:	Approx. 162 g (with Memory Card and battery) Approx. 140 g (excluding Memory Card and battery)

Operating

Temperature:	0 °C to 40 °C
Operating Humidity:	10% to 80%

Battery Charger**(Panasonic****DE-A60B):**

Information for your safety

Input:	110 V to 240 V ~ 50/60 Hz, 0.2 A
Output:	4.2 V --- 0.65 A (Battery charging)

Equipment mobility: Movable**Battery Pack****(lithium-ion)****(Panasonic****CGA-S/106C):**

Information for your safety

Voltage/capacity (Minimum):	3.6 V/740 mAh
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